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TOLER LAW GROUP
8500 BLUFFSTONE COVE
SUITE A201
AUSTIN, TX 78759

EXAMINER	
PHAM, MICHAEL	
ART UNIT	PAPER NUMBER
2167	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)
	10/677,133	WOZNIAK ET AL.
	Examiner	**Art Unit**
	MICHAEL PHAM	2167

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _28 January 2009_.
2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-8,11-19,21-23 and 25-32_ is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) _1-8, 11-19, 21-23, 25-32_ is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a)☐ All b)☐ Some * c)☐ None of:
1.☐ Certified copies of the priority documents have been received.
2.☐ Certified copies of the priority documents have been received in Application No. _____.
3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/28/09 has been entered.

Claim Status

2. Claims 1-8, 11-19, 21-23, and 25-32 are pending.

3. Claims 1-8, 11-19, 21-23, and 25-32 have been examined.

Claim Rejections - 35 USC § 101

4. Regarding claims 11-19, 23, 26-27, and in particular claim 11 recites a "computer". In the absence of any modifying disclosure of this limitation in the specification, the examiner interprets the term 'computer' as excluding printed paper, transmission media, signals, or any form of energy, such that the claim clearly falls within a statutory class of invention as required under the terms of 35 U.S.C. 101.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject

> matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1, 3, 4, 7, 8, and 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. 6938039 by Bober et. al. (hereafter Bober) further in view of U.S. 20040088417 by Bober et. al. (hereafter '417).

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Claim 1:

Bober discloses the following claimed limitations:

"Directing each of the plurality of" "requests to an SMS simulator instead of to the first SMS or the second SMS;"[col. 2 lines 49-51, directing subsequent client requests to the target file server instead of the source server. Col. 2 lines 56-58, offline nodes representing file system objects that have not yet been transferred from the source file server to the target file server. Accordingly, directing (col. 2 lines 49-51, directing) each of the plurality of requests (col. 2 lines 49-51, requests) to an SMS simulator (col. 2 lines 49-52 and lines 56-58, target server using offline nodes) instead of to the first SMS (col. 2 lines 49-52, source server) is disclosed]

"For each syntactically correct request:

Assigning, via the SMS simulator, a corresponding simulated" "component identifier associated with the" "request;"[col. 2 lines 49-51, directing subsequent client requests to the target file server instead of the source server. Col. 2 lines 56-58, offline nodes representing file system objects that have not yet been transferred from the source file server to the target file server. col. 2 lines 42-43, the target file server responding to client read/write requests for access to the file system. col. 7 lines 15-18, the target server performs migration by creating offline inodes of the file system being migrated, and converting the offline inodes to a conventional inode. col. 2 lines 58-63, requests to source file server in accordance with a network file access protocol to transfer the file system objects represented by the offline nodes. Accordingly, for each syntactically correct request (col. 2 lines 42-43, requests): assigning, via the SMS simulator (col. 2 lines 49-52 and lines 56-58, target server using offline nodes), a corresponding simulated component identifier (col. 7 lines 15-18, creating offline inodes of the file system) associated with the request (col. 2 lines 58-63, requests to source file server in accordance with a network file access protocol to transfer the file system objects represented by the offline nodes) is disclosed]

"Storing, a command associated with the" "request and its associated simulated" "component identifier in a first transaction file; and" [col. 2 lines 58-63, requests to source file server in accordance with a network file access protocol to transfer the file system objects represented by the offline nodes. col. 7 lines 15-18, the target server performs migration by creating offline inodes of the file system being migrated, and converting the offline inodes to a conventional inode. Col. 7 lines 55-57,the online and offline nodes each have a flag indicating whether or not the node is an online or an offline node. Accordingly, storing, a command (flag) associated with the request (col. 2 lines 58-63, …requests to source file server in accordance with a network file access protocol to transfer the file system objects represented by the offline nodes) and its associated simulated component identifier in a first transaction file (col. 7 lines 15-18, creating offline inodes of the file system) is disclosed.]

"Sending, from the SMS simulator, a" "response based on the" "request;" [Accordingly, sending, from the SMS simulator (col. 2 lines 49-52 and lines 56-58, target server using offline nodes), a response based on the request (col. 5 line 67-col. 6 lines 1-2, target file server obtains the requested object from the source file server) is disclosed]

“”first transaction file to the target SMS;” [Accordingly, the first transaction file (figure 3 element 61, offline node) to the target SMS (Target file server online node) is disclosed]

“Receiving a corresponding response from the second SMS in response” data “transferred from the SMS simulator to the target SMS; and”[col. 7 lines 23-25 after converting an offline inode to a conventional inode the migration software tests whether the counter is zero to determine whether or not migration of the file system has been completed. Accordingly, receiving a corresponding response (test counter) from the target SMS (Target server using online) is disclosed.]

“Determining whether each response from the second SMS matches the corresponding” “response sent by the SMS simulator.”[col. 7 lines 23-25, after converting an offline inode to a conventional inode the migration software tests whether the counter is zero to determine whether or not migration of the file system has been completed. Accordingly, determining whether each response from the second SMS matches the corresponding response sent by the SMS simulator (counter is zero)]

Bobber does not explicitly disclose “provisioning”; “transferring each of the provisioning requests having an associated simulated provisioning component identifier”; and “to each provisioning request transferred"

On the other hand, ‘417 discloses 0053 line 1 provisioning requests. 0033 line 7, further disclosing provisioning requests can specifically identify. 0033 line 3 discloses provision a computer system in response to a provisioning request. Accordingly, a provisioning request, a provisioning component identifier, and a provisioning response based on the provisioning request, is disclosed.

‘417 further discloses 0053 lines that the provisioning request can be created in an essentially entirely automated fashion by reverse engineering a current computer system configuration that is desired to be replicated. It may be desirable to replicate an existing computer system configuration for any of number of reasons. One particularly application in which replication may be desirable is when a data migration is being performed from one storage system to another. 0061 an automatic provisioning process that automatically provisions a computer system to satisfy the definition provided in the request. 0033 line 7, further disclosing provisioning requests can specifically identify. Accordingly, transferring each of the provisioning requests (provisions a computer system) having an associated simulated provisioning component identifier (specifically identify) is disclosed.

‘417 further discloses 0061 an automatic provisioning process that automatically provisions a computer system to satisfy the definition provided in the request. Accordingly, provisioning request transferred (provisions a computer system) is disclosed.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have applied the disclosure of '417 to the disclosure of Bober for the purpose of data migration. In '417 paragraph 0033 lines 3-5 it states that provisioning provides a specification that defines a desired configuration for a computer system. In 0053 lines 10-14, it may be desirable to replicate an existing computer system configuration for any of numerous reasons. One particular application in which replication may be desirable is when a data migration is being performed from one storage system to another.

Claim 3:

As to "replacing SMS-simulator-generated provisioning information in a database with provisioning information associated with the target SMS"

Bober discloses in the abstract lines 19-20 "replacing SMS-simulator-generated information in a database with information associated with the target SMS." as changes (replacing) the offline node for the object (SMS-simulator generated provisioning information in a database with) to an online node for the object (information associated with the target SMS).

Bober does not explicitly disclose "provisioning".

On the other hand, 417 discloses figure 3 elements 210-214, specifications for provisioning.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have applied the disclosure of '417 to the disclosure of Bober for the purpose of data migration. In '417 paragraph 0033 lines 3-5 it states that provisioning provides a specification that defines a desired configuration for a computer system. In 0053 lines 10-14, it may be desirable to replicate an existing computer system configuration for any of numerous reasons. One particular application in which replication may be desirable is when a data migration is being performed from one storage system to another.

Claim 4:

The combination of Bober and '417 discloses in Bober "replacing each SMS-simulator-generated component identifier in the database with a corresponding component identifier associated with the target SMS." as placing data block references in the migration inode, and converting the offline inode to an online inode by overwriting the off-line node with the migration inode (replacing each). Figure 5 element 73, migration inode pointer (SMS-simulator generated component identifier in the database). Figure 5 element 65, data Block references (with a corresponding component identifier associated with the target SMS)

Claim 7:

Bober discloses the following claimed limitations:

"Directing a subsequent" "request to the SMS simulator;" [col. 2 lines 49-51, directing subsequent client requests to the target file server instead of the source server. Col. 2 lines 56-58, offline nodes representing file system objects that have not yet been transferred from the source file server to the target file server. Accordingly, directing (col. 2 lines 49-51, directing) a subsequent request (col. 2 lines 49-51, requests) to an SMS simulator (col. 2 lines 49-52 and lines 56-58, target server using offline nodes) is disclosed]

"Assigning, via the SMS simulator, a" "component identifier associated with the subsequent" "request;" [col. 2 lines 49-51, directing subsequent client requests to the target file server instead of the source server. Col. 2 lines 56-58, offline nodes representing file system objects that have not yet been transferred from the source file server to the target file server.

col. 2 lines 42-43, the target file server responding to client read/write requests for access to the file system. col. 7 lines 15-18, the target server performs migration by creating offline inodes of the file system being migrated, and converting the offline inodes to a conventional inode. col. 2 lines 58-63, requests to source file server in accordance with a network file access protocol to transfer the file system objects represented by the offline nodes. Accordingly, assigning, via the SMS simulator (col. 2 lines 49-52 and lines 56-58, target server using offline nodes), a component identifier (col. 7 lines 15-18, creating offline inodes of the file system) associated with the subsequent request (col. 2 lines 58-63, requests to source file server in accordance with a network file access protocol to transfer the file system objects represented by the offline nodes) is disclosed]

"Storing a command associated with the subsequent" "request and its associated" "component identifier in a second transaction file; and" [col. 2 lines 58-63, requests to source file server in accordance with a network file access protocol to transfer the file system objects represented by the offline nodes. col. 7 lines 15-18, the target server performs migration by creating offline inodes of the file system being migrated, and converting the offline inodes to a conventional inode. Col. 7 lines 55-57,the online and offline nodes each have a flag indicating whether or not the node is an online or an offline node. Accordingly, storing a command (flag) associated with the subsequent request (col. 2 lines 58-63, …requests to source file server in accordance with a network file access protocol to transfer the file system objects represented by the offline nodes) and its associated component identifier in a second transaction file (col. 7 lines 15-18, creating offline inodes of the file system) is disclosed.]

"Sending, via the SMS simulator, a subsequent" "response based on the subsequent" "request." [Accordingly, sending, via the SMS simulator (col. 2 lines 49-52 and lines 56-58, target server using offline nodes), a subsequent response based on the subsequent request (col. 5 line 67-col. 6 lines 1-2, target file server obtains the requested object from the source file server) is disclosed]

However Bober does not explicitly disclose "provisioning".

On the other hand, '417 discloses 0053 line 1 provisioning requests. 0033 line 7, further disclosing provisioning requests can specifically identify. 0033 line 3 discloses provision a computer system in response to a provisioning request. Accordingly, a provisioning request, a provisioning component identifier, and a provisioning response based on the provisioning request, is disclosed.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have applied the disclosure of '417 to the disclosure of Bober for the purpose of data migration. In '417 paragraph 0033 lines 3-5 it states that provisioning provides a specification that defines a desired configuration for a computer system. In 0053 lines 10-14, it may be desirable to replicate an existing computer system configuration for any of numerous reasons. One particular application in which replication may be desirable is when a data migration is being performed from one storage system to another.

Claim 8:

The combination of Bober and ‘417, disclose in '417 provisioning requests. The combination further discloses in Bober “transferring the subsequent request” (col. 3 lines 1-6, client requests) “in the second transaction file” (offline node) “to the target SMS.” (target server)

Claim 21:

The combination of Bober and ‘417 further disclose in ‘417, “identifying a particular provisioning request as unsuccessful when the response received from the second SMS to the corresponding provisioning request does not match the corresponding provisioning response sent by the SMS simulator.” [0071, an error message is returned indicating that the provisioning request cannot be satisfied as specified.]

Claim 22:

The combination of Bober and ‘417 further disclose in ‘417, “generating an error log of unsuccessful provisioning requests.” [0071, an error message is returned indicating that the provisioning request cannot be satisfied as specified.]

7. Claims 2, 5, 11-15, 17-19, 25, and 28-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. 6938039 by Bober et. al. (hereafter Bober) further in view of U.S. 20040088417 by Bober et. al. (hereafter ‘417) and U.S. Patent Application Publication 20030069903 by Gupta (hereafter Gupta).

Claim 2:

As to “directing subsequent provisioning requests to the target SMS instead of to the SMS simulator upon determining that no provisioning requests are made within a transaction-file-replay time period.”

The combination of Bober and ‘417 disclose in Bober directing “subsequent” “requests to the target SMS instead of to the SMS simulator upon determining that no” “requests are made” [abstract, when an object has been completely migrated, the target file server changes the offline node for the object to an online node for the object.].

The combination of Bober and ‘417 disclose in ‘417 “provisioning requests” [0053 line 1 provisioning requests].

However, Bober and ‘417 do not explicitly disclose “within a transaction-file-replay time period.”

On the other hand, Gupta discloses 0037, logged transactions are executed on the target server. Accordingly, a transaction-file replay time period (logged transactions executed) is disclosed. Bobber, ‘417, and Gupta are all directed to data migration systems, and thus within the same field of endeavor. It would have been obvious to have applied Gupta’s disclosure above to the combination of Bobber and '417, for the purpose of allowing synchronization of later updates of a file system.

Claim 5:

As to “replacing the SMS-simulator-generated provisioning time information with corresponding provisioning time information associated with the target SMS.”

The combination of Bober and ‘417 disclose in Bober replacing the SMS-simulator-generated information with corresponding information associated with the target SMS [target server changes the offline node for the object to an online node for the object].

The combination of Bober and ‘417 disclose in ‘417 provisioning information [0053 line 1 provisioning requests].

However, Bober and ‘417 do not explicitly disclose time information.

On the other hand, Gupta discloses 0038 line 7, an update stage at ever decreasing time intervals.

Bobber, ‘417, and Gupta are all directed to data migration systems, and thus within the same field of endeavor. It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have applied Gupta’s disclosure above to the combination of Bobber and '417, for the purpose maintaining time information in order to track updates. Thus, maintaining synchronization.

Claim 11:

Bober discloses the following claimed limitations:

“a computer including an SMS simulator”[col. 2 lines 49-52 and lines 56-58, target server using offline nodes]

“A network element to redirect each of the plurality of” “requests to an SMS simulator instead of a source SMS or the target SMS; “[col. 2 lines 49-51, directing subsequent client requests to the target file server instead of the source server. Col. 2 lines 56-58, offline nodes representing file system objects that have not yet been transferred from the source file server to the target file server. Accordingly, a network element to redirect (col. 2 lines 49-51, directing) each of the plurality of requests (col. 2 lines 49-51, requests) to an SMS simulator (col. 2 lines

49-52 and lines 56-58, target server using offline nodes) instead of to the first SMS (col. 2 lines 49-52, source server) is disclosed]

"The SMS simulator executes a replay utility to:

Assign a corresponding simulated provisioning component identifier associated with each of the plurality of provisioning requests;" [col. 2 lines 49-51, directing subsequent client requests to the target file server instead of the source server. Col. 2 lines 56-58, offline nodes representing file system objects that have not yet been transferred from the source file server to the target file server. col. 2 lines 42-43, the target file server responding to client read/write requests for access to the file system. col. 7 lines 15-18, the target server performs migration by creating offline inodes of the file system being migrated, and converting the offline inodes to a conventional inode. col. 2 lines 58-63, requests to source file server in accordance with a network file access protocol to transfer the file system objects represented by the offline nodes. Accordingly, the SMS simulator to assigning (col. 2 lines 49-52 and lines 56-58, target server using offline nodes), a corresponding simulated component identifier (col. 7 lines 15-18, creating offline inodes of the file system) associated with the request (col. 2 lines 58-63, requests to source file server in accordance with a network file access protocol to transfer the file system objects represented by the offline nodes) is disclosed]

"Store a command associated with each provisioning request and its associated simulated provisioning component identifier in a first transaction file; and" [col. 2 lines 58-63, requests to source file server in accordance with a network file access protocol to transfer the file system objects represented by the offline nodes. col. 7 lines 15-18, the target server performs migration by creating offline inodes of the file system being migrated, and converting the offline inodes to a conventional inode. Col. 7 lines 55-57,the online and offline nodes each have a flag indicating whether or not the node is an online or an offline node. Accordingly, store a command (flag) associated with the request (col. 2 lines 58-63, …requests to source file server in accordance with a network file access protocol to transfer the file system objects represented by the offline nodes) and its associated simulated component identifier in a first transaction file (col. 7 lines 15-18, creating offline inodes of the file system) is disclosed.]

"Send a corresponding provisioning response based on each of the plurality of provisioning requests; and" [Accordingly, sending, from the SMS simulator (col. 2 lines 49-52 and lines 56-58, target server using offline nodes), a response based on the request (col. 5 line 67-col. 6 lines 1-2, target file server obtains the requested object from the source file server) is disclosed]

"A first utility to:"

"in the first transaction file to a second SMS;" [Accordingly, the first transaction file (figure 3 element 61, offline node) to the second SMS (Target file server online node) is disclosed]

"Receive a response from the second SMS; and" [col. 7 lines 23-25 after converting an offline inode to a conventional inode the migration software tests whether the counter is zero to determine whether or not migration of the file system has been completed. Accordingly, receiving a corresponding response (test counter) from the second SMS (Target server using online) is disclosed.]

"Determine whether each response received from the second SMS matches the corresponding provisioning response sent by the SMS simulator." [col. 7 lines 23-25, after converting an offline inode to a conventional inode the migration software tests whether the counter is zero to determine whether or not migration of the file system has been completed. Accordingly, determining whether each response from the second SMS matches the corresponding response sent by the SMS simulator (counter is zero)]

Bober does not explicitly disclose “provisioning”; “transfer each of the provisioning requests having an associated simulated provisioning component identifier ”; and “for each of the plurality of provisioning requests transferred”

On the other hand, ‘417 discloses 0053 line 1 provisioning requests. 0033 line 7, further disclosing provisioning requests can specifically identify. 0033 line 3 discloses provision a computer system in response to a provisioning request. Accordingly, a provisioning request, a provisioning component identifier, and a provisioning response based on the provisioning request, is disclosed.

‘417 further discloses 0053 lines that the provisioning request can be created in an essentially entirely automated fashion by reverse engineering a current computer system configuration that is desired to be replicated. It may be desirable to replicate an existing computer system configuration for any of number of reasons. One particularly application in which replication may be desirable is when a data migration is being performed from one storage system to another. 0061 an automatic provisioning process that automatically provisions a computer system to satisfy the definition provided in the request. 0033 line 7, further disclosing provisioning requests can specifically identify. Accordingly, transferring each of the provisioning requests (provisions a computer system) having an associated simulated provisioning component identifier (specifically identify) is disclosed.

‘417 further discloses 0061 an automatic provisioning process that automatically provisions a computer system to satisfy the definition provided in the request. Accordingly, for each of the plurality of provisioning request transferred (provisions a computer system) is disclosed.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have applied the disclosure of ‘417 to the disclosure of Bober for the purpose of data migration. In ‘417 paragraph 0033 lines 3-5 it states that provisioning provides a specification that defines a desired configuration for a computer system. In 0053 lines 10-14, it may be desirable to replicate an existing computer system configuration for any of numerous reasons. One particular application in which replication may be desirable is when a data migration is being performed from one storage system to another.

Bober and ‘417 do not explicitly disclose “executes a replay utility”.

On the other hand, Gupta discloses logged transactions are executed on target server, 0037. Accordingly, executes a replay utility (logged transactions).

Bobber, ‘417, and Gupta are all directed to data migration systems, and thus within the same field of endeavor. It would have been obvious to have applied Gupta’s disclosure above to the combination of Bobber and '417, for the purpose of allowing synchronization of later updates of a file system.

Claim 12:

As to “wherein the network element is to direct subsequent provisioning requests to the second SMS instead of the SMS simulator upon determining that no subsequent provisioning requests are made within a transaction-file-replay time period, and wherein each of the plurality of provisioning requests are syntactically correct."

The combination of Bober and '417 disclose in Bober

"network element is to direct subsequent" "requests to the second SMS instead of the SMS simulator upon determining no subsequent" "requests are made" [abstract, when an object has been completely migrated, the target file server changes the offline node for the object to an online node for the object.]

"wherein each of the plurality of" "requests are syntactically correct" [col. 2 lines 42-43, requests]

The combination of Bober and '417 disclose in '417 "provisioning request" [0053 line 1 provisioning requests].

However the combination of Bober and '417 do not explicitly disclose "within transaction-file-replay time period"

On the other hand, Gupta discloses 0037, logged transactions are executed on the target server. Accordingly, a transaction-file replay time period (logged transactions executed) is disclosed.

Bobber, '417, and Gupta are all directed to data migration systems, and thus within the same field of endeavor. It would have been obvious to have applied Gupta's disclosure above to the combination of Bobber and '417, for the purpose of allowing synchronization of later updates of a file system.

Claim 13:

As per "to replace SMS-simulator-generated provisioning information in a database with provisioning information for the second SMS."

The combination of Bober and Gupta discloses in in Bober, the abstract lines 19-20 "to replace SMS-simulator-generated" "information" "in a database with" "information associated with the second SMS." as changes (replacing) the offline node for the object (SMS-simulator generated provisioning information in a database with) to an online node for the object (information associated with the second SMS).

The combination of Bober and Gupta does not explicitly disclose "provisioning".

On the other hand, 417 discloses figure 3 elements 210-214, specifications for provisioning.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have applied the disclosure of '417 to the combination of Bober and Gupta for the purpose of data migration. In '417 paragraph 0033 lines 3-5 it states that provisioning provides a specification that defines a desired configuration for a computer system. In 0053 lines 10-14, it may be desirable to replicate an existing computer system configuration for any of numerous reasons. One particular application in which replication may be desirable is when a data migration is being performed from one storage system to another.

Claim 14:

As per "to replace the SMS-simulator-generated component identifiers in the database with corresponding provisioning component identifiers of the second SMS."

The combination of Bober, ‘417, and Gupta therefore discloses in Bober “to replace the SMS-simulator-generated component identifiers in the database with a corresponding component identifier associated with the second SMS.” as placing data block references in the migration inode, and converting the offline inode to an online inode by overwriting the off-line node with the migration inode (replacing each). Figure 5 element 73, migration inode pointer (SMS-simulator generated component identifier in the database). Figure 5 element 65, data Block references (with a corresponding component identifier associated with the second SMS)

The combination of Bober and ‘417 discloses in ‘417 provisioning, 0053 line 1.

Claim 15:

As per “to replace SMS-simulator-generated provisioning time information with actual provisioning time information for the second SMS.”

The combination of Bober and ‘417 disclose in Bober “to replace SMS-simulator-generated” “information with actual” “information for the second SMS” [Abstract, target server changes the offline node for the object to an online node for the object].

The combination of Bober and ‘417 disclose in ‘417 “provisioning information” [0053 line 1 provisioning requests].

However, Bober and ‘417 do not explicitly disclose “time” information.

On the other hand, Gupta discloses 0038 line 7, an update stage at ever decreasing time intervals.

Bobber, ‘417, and Gupta are all directed to data migration systems, and thus within the same field of endeavor. It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have applied Gupta’s disclosure above to the combination of

Bobber and '417, for the purpose maintaining time information in order to track updates. Thus, maintaining synchronization.

Claim 17:
Bober discloses:

"Assign a corresponding" "component identifier associated with the subsequent" "request;" [col. 2 lines 49-51, directing subsequent client requests to the target file server instead of the source server. Col. 2 lines 56-58, offline nodes representing file system objects that have not yet been transferred from the source file server to the target file server. col. 2 lines 42-43, the target file server responding to client read/write requests for access to the file system. col. 7 lines 15-18, the target server performs migration by creating offline inodes of the file system being migrated, and converting the offline inodes to a conventional inode. col. 2 lines 58-63, requests to source file server in accordance with a network file access protocol to transfer the file system objects represented by the offline nodes. Accordingly, assigning, via the SMS simulator (col. 2 lines 49-52 and lines 56-58, target server using offline nodes), a component identifier (col. 7 lines 15-18, creating offline inodes of the file system) associated with the subsequent request (col. 2 lines 58-63, requests to source file server in accordance with a network file access protocol to transfer the file system objects represented by the offline nodes) is disclosed]

"store a command associated with the subsequent" "request and its associated" "component identifier in a second transaction file; and" [col. 2 lines 58-63, requests to source file server in accordance with a network file access protocol to transfer the file system objects represented by the offline nodes. col. 7 lines 15-18, the target server performs migration by creating offline inodes of the file system being migrated, and converting the offline inodes to a conventional inode. Col. 7 lines 55-57,the online and offline nodes each have a flag indicating whether or not the node is an online or an offline node. Accordingly, storing a command (flag) associated with the subsequent request (col. 2 lines 58-63, …requests to source file server in accordance with a network file access protocol to transfer the file system objects represented by the offline nodes) and its associated component identifier in a second transaction file (col. 7 lines 15-18, creating offline inodes of the file system) is disclosed.]

"Send a corresponding" "response based on the subsequent" "request." [Accordingly, sending, via the SMS simulator (col. 2 lines 49-52 and lines 56-58, target server using offline nodes), a subsequent response based on the subsequent request (col. 5 line 67-col. 6 lines 1-2, target file server obtains the requested object from the source file server) is disclosed]

However Bober does not explicitly disclose "provisioning".

On the other hand, '417 discloses 0053 line 1 provisioning requests. 0033 line 7, further disclosing provisioning requests can specifically identify. 0033 line 3 discloses provision a computer system in response to a provisioning request. Accordingly, a provisioning request, a provisioning component identifier, and a provisioning response based on the provisioning request, is disclosed.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have applied the disclosure of '417 to the disclosure of Bober for the purpose of data migration. In '417 paragraph 0033 lines 3-5 it states that provisioning provides a specification that defines a desired configuration for a computer system. In 0053 lines 10-14, it may be desirable to replicate an existing computer system configuration for any of numerous reasons. One particular application in which replication may be desirable is when a data migration is being performed from one storage system to another.

Claim 18:

The combination of Bober, '417, and Gupta further disclose in '417 "to replay the subsequent provisioning request in the second transaction file to the second SMS." [0061 an automatic provisioning process that automatically provisions a computer system to satisfy the definition provided in the request.]

Claim 19:

The combination of Bober and '417 do not explicitly disclose "replays the second transaction file at a predetermined time period after replaying the first transaction file".

On the other hand, Gupta discloses "replays the second transaction file at a predetermined time period after replaying the first transaction file" [0038, time intervals]

Bobber, '417, and Gupta are all directed to data migration systems, and thus within the same field of endeavor. It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have applied Gupta's disclosure above to the combination of Bobber and '417, for the purpose maintaining time information in order to track updates. Thus, maintaining synchronization.

Claim 23:

The combination of Bober ,'417, and Gupta disclose in '417 "identifies a particular provisioning request as unsuccessful when the response received from the second SMS to the corresponding provisioning request does not match the corresponding provisioning response sent by the SMS simulator." [0071, an error message is returned indicating that the provisioning request cannot be satisfied as specified.]

Claim 25:

The combination of Bober and '417 disclose in Bober "providing the SMS simulator, wherein the SMS simulator" [col. 2 lines 49-52 and lines 56-58, target server using offline nodes]

However the combination of Bober and '417 do not explicitly disclose "is operable to record and play back data generated during a migration period."

On the other hand, Gupta discloses logging at least one of the transactions 0036 line 5-6; and 037 lines 1-2 logged transactions are executed on target server. Accordingly, to record (logged transaction) and play back data (logged transactions executed) generated during a migration period (abstract line 2 during migration) is disclosed.

Bobber, '417, and Gupta are all directed to data migration systems, and thus within the same field of endeavor. It would have been obvious to have applied Gupta's disclosure above to the combination of Bobber and '417, for the purpose of allowing synchronization of later updates of a file system.

Claim 28:

Bobber discloses the following claimed limitations: "A method comprising:

Migrating data" (col. 2 lines 45-46, migrating) "from a source service management system (SMS)" (col. 2 lines 45-46, source file server) "to a target SMS;" (col. 2 line 53, target server using online node)

"Redirecting requests" (directing) "from the target SMS" (col. 2 line 53, server) "to an SMS simulator;" (col. 2 line 53, target server using offline node)

"stop redirecting the""requests to the SMS simulator" "and start directing the" "requests to the target SMS instead" (col. 3 lines 1-4)

"when no" "requests are redirected to the SMS simulator" (col. 3 lines 1-4)

Bobber does not explicitly disclose "provisioning" requests.

On the other hand, '417 discloses 0053 line 1 provisioning requests. Accordingly, a provisioning request is disclosed.

'417 further discloses 0053 lines that the provisioning request can be created in an essentially entirely automated fashion by reverse engineering a current computer system configuration that is desired to be replicated. It may be desirable to replicate an existing computer system configuration for any of number of reasons. One particularly application in which replication may be desirable is when a data migration is being performed from one storage system to another. 0061 an automatic provisioning process that automatically provisions a computer system to satisfy the definition provided in the request. 0033 line 7, further disclosing provisioning requests can specifically identify. Accordingly, transferring each of the provisioning requests (provisions a computer system) having an associated simulated provisioning component identifier (specifically identify) is disclosed.

Bobber and ‘417 does not explicitly disclose

“buffering the redirected” “requests” (0037, logged transactions)

“Periodically replaying the buffered” “requests to the target SMS; and” (0037, execute log transactions)

“during a periodic replaying of the buffered provisioning requests,” (0037, execute log transaction; 0038 repeat update stage)

Bobber, ‘417, and Gupta are all within the same field of endeavor and therefore analogous. It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have applied Gupta’s disclosure above to the combination of Bobber and '417, for the purpose of allowing synchronization of later updates of a file system.

Claim 29:

The combination of Bobber, ‘417, and Gupta disclose in Bobber “The method of claim 28, wherein in the source SMS includes a first platform and the target SMS includes a second platform.” (figure 1 elements 19 and 20)

Claim 30:

The combination of Bobber, ‘417, and Gupta further disclose in Gupta “The method of claim 28, wherein the periodic replaying of the buffered provisioning requests is performed in response to an operator command, is performed at a particular time, or is performed at a time interval.” (0038)

Claim 31:

The combination of Bobber, ‘417 and Gupta further disclose in Gupta, “The method of claim 28, wherein the redirected provisioning requests are buffered in a transaction file and wherein replaying the buffered provisioning requests includes:

Closing the transaction file;” (0039, updating stops)

“Opening a new transaction file for buffering the redirected provisioning requests;” (0037, logged transactions) “and replaying the buffered provisioning requests in the closed transaction file to the target SMS.” (0037, logged transactions are executed)

Claim 32:

The combination of Bobber, ‘417 and Gupta further disclose in Bobber “The method of claim 28, further comprising, for each syntactically-correct redirected provisioning request:

Assigning, via the SMS simulator, a corresponding simulated provisioning component identifier associated with the redirected provisioning request;” (offline inode)

“Storing a command associated with the redirected provisioning request and its associated simulated provisioning component identifier; and” (flag)

"Sending, from the SMS simulator, a provisioning response based on the redirected provisioning request." (col. 3 lines 1-6)

8. Claims 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6938039 by Bober et. al. (hereafter Bober) and US Patent Application Publication 20040088417 by Bober et. al. (hereafter '417) further in view of US Patent Application Publication 20020165724 by Blankesteijn et. al. (hereafter Blankesteijn).

Claim 6:

As to, "suppressing provisioning notification to a main billing and provisioning system during the replacing."

The combination of Bober, and '417 disclose in '417 "suppressing notification to a provisioning system during replacing" [0071, error message returned indicating that the provisioning request cannot be satisfied as specified].

However Bober and '417 do not explicitly disclose a billing system.

On the other hand, Gabbita discloses col. 6 lines 35-36 bill the purchased products and services. Accordingly, Gabbita discloses a billing system.

Bober, '417, and Gabbita are all directed to transactions for a database system. It would have been obvious to a person of an ordinary skill at the time the invention was made to have applied Gabbita's disclosure above to the combination of Bober and '417 for the purpose providing a method to bill for a particular service or request. In doing so, improves the profitability of customizing provisioning systems.

9. Claims 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6938039 by Bober et. al. (hereafter Bober) and US Patent Application Publication 20040088417 by Bober et. al. (hereafter '417) and by U.S. Patent Application Publication 20030069903 by Gupta et. al. (hereafter Gupta) further in view of US Patent Application Publication 20020165724 by Blankesteijn et. al. (hereafter Blankesteijn).

Claim 16:

As to, "wherein provisioning notification is suppressed to a main billing and provisioning system when the SMS-simulator-generated provisioning information is replaced."

The combination of Bober, '417, Gupta disclose in '417 "wherein provisioning notification is suppressed to a main provisioning system when the SMS-simulator-generated provisioning information is replaced" [0071, error message returned indicating that the provisioning request cannot be satisfied as specified. 0061 an automatic provisioning process that automatically provisions a computer system to satisfy the definition provided in the request. Accordingly, wherein provisioning notification is suppressed to (error message) a main provisioning system (provision) when the SMS-simulator generated provisioning information (computer system) is replaced (provision a computer system).].

However Bober, '417, and Gupta do not explicitly disclose a billing system.

On the other hand, Gabbita discloses col. 6 lines 35-36 bill the purchased products and services. Accordingly, Gabbita discloses a billing system.

Bober, '417, Gupta, and Gabbita are all directed to transactions for a database system. It would have been obvious to a person of an ordinary skill at the time the invention was made to have applied Gabbita's disclosure above to the combination of Bober '417, and Gupta for the purpose providing a method to bill for a particular service or request. In doing so, improves the profitability of customizing provisioning systems.

10. Claims 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6938039 by Bober et. al. (hereafter Bober) and US Patent Application Publication 20040088417 by Bober et. al. (hereafter '417) and by U.S. Patent Application Publication 20030069903 by Gupta et. al. (hereafter Gupta) further in view of US Patent Application Publication 20020165724 by Blankesteijn et. al. (hereafter Blankesteijn).

Claim 26:
The combination of Bober and '417 do not explicitly disclose "to close the first transaction file and open the second transaction file in response to an operator command."

On the other hand, paragraph 290 a get file function copies the file containing the net changes for the period or changes for the interval to a specified location. Further disclosing paragraph 290, a close function. Accordingly, to close the first transaction file (file containing net changes) and open the second transaction file (get file...file containing net changes) in response to an operator command (function) is disclosed.

Bober, '417, and Blankestijn are all directed towards data migration systems, and are therefore within the same field of endeavor. It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have applied Blankestijn's disclosure above, to the combination of Bober and '417 for the purpose of maintaining the changes provided to a system.

Claim 27:

The combination of Bober and ‘417 do not explicitly disclose “to close the first transaction file and open the second transaction file at a predetermined time or at a predetermined time interval after a previous event”

On the other hand, paragraph 290 a get file function copies the file containing the net changes for the period or changes for the interval to a specified location. Further disclosing paragraph 290, a close function. Accordingly, to close the first transaction file (close) and open the second transaction file (open) at a predetermined time (file contains changes for the period) or at a predetermined time interval after a previous event.

Bober, ‘417, and Blankestijn are all directed towards data migration systems, and are therefore within the same field of endeavor. It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to have applied Blankestijn’s disclosure above, to the combination of Bober and '417 for the purpose of maintaining the changes provided to a system.

Response to Arguments

11. Applicant's arguments filed 1/28/09 have been fully considered but they are not fully persuasive.

Applicant’s mainly assert the following with regards to the cited references.

A. Page 8-9, Bober and '417 individually or in combination do not disclose or suggest the specific combination of claim 1. That this is because Bober and '417 fail to disclose or suggest directing each of a plurality of provisioning requests to an SMS simulator instead of to a source SMS or to a target SMS. Stating that a target file server in Bober is not an SMS simulator, asserting that the offline nodes represent data that has not yet been migrated, and that offline nodes are not part of an SMS simulator. That '417 further fails to disclose directing provisioning requests to an SMS simulator instead of to a target SMS.

In response, the examiner respectfully disagrees that the combination of Bober and ‘417 fails to disclose the asserted limitation “directing provision requests to an SMS simulator instead of to a target SMS.”

Bober discloses col. 2 lines 49-51, directing subsequent client requests to the target file server instead of the source server. Col. 2 lines 56-58, offline nodes representing file system objects that have not yet been transferred from the source file server to the target file server.

Accordingly, directing (col. 2 lines 49-51, directing) each of the plurality of requests (col. 2 lines 49-51, requests) to an SMS simulator (col. 2 lines 49-52 and lines 56-58, target server using offline nodes) instead of to the source SMS (col. 2 lines 49-52, source server) or to the target SMS (col. 2 lines 49-52 and lines 56-58, target file server using online nodes) is disclosed

It was further stated in the rejection that ‘417 disclosed the “provisioning requests”. Therefore, in response to applicant's arguments against the references individually, one cannot *show nonobviousness by attacking references individually where the rejections are based on combinations of references. See In re Keller, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); In re Merck & Co., 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).*

Applicant's are further directed to col. 3 lines 2-6, of Bober, where it recites, "the target file server responds to client read/write requests for access to the file system. The target file server responds by accessing objects in the target file server when the target file server has online nodes for the objects and by fetching objects from the source file server when the target file server has offline nodes for the objects."

The time when the source server does not migrate data and handles requests is when the requests are handled by the source server.

The time when the target server handles directed requests and nodes are offline is an SMS simulator, since the system does not fetch the data from the target server and that the requests are directed to it.

The time when the target server handles all requests and nodes are all online and hence all on the target server, is when migration is complete. Hence, this is interpreted to be the target server handling the requests.

Applicant's essentially assert that the target server is different from the SMS simulator, and therefore not an SMS simulator. This is unpersuasive because the interpretation of the target server (i.e. target server using online nodes, bober) being different than the SMS *simulator (i.e. target server using offline nodes, bober) has been shown. The reference is still broad enough to read on the cited limitations, the assertions are therefore unpersuasive over the cited references.*

B. Page 9, That the cited portions do not disclose transferring a subsequent provisioning request in a second transaction file to a target SMS as in claim 8.

In response this is respectfully disagreed. The combination of Bober and '417, disclose in '417 provisioning requests. The combination further discloses in Bober "transferring the subsequent request" (col. 3 lines 1-6, client requests) "in the second transaction file" (col. 3 liens 1-6, offline node) "to the target SMS." (col. 3 lines 1-6, target server).

C. page 9-10, Applicant's assert that Bober does not disclose a network element to redirect each of a plurality of provisioning requests to an SMS simulator instead of to a source SMS or to a target SMS and therefore claim 11 is not disclosed. Stating similar arguments as to claim 1 for Bober. And that '417 further fails to describe specific techniques or methods for migrating data from a source SMS to a target SMS.

This is now moot. Furthermore, in response please see part A.

D. Pages 11-17, Applicant's assert that claims 2, 5,6, 12, 15,16, 19, and 25-32 are further not disclosed because claims 1 and 11 are not disclosed. That Gupta, Gabbita, and

Blankesteijn, further fail to disclose provisioning requests directed to an SMS simulator instead of to a first SMS in claim 1 and a network element to redirect each of a plurality of provisioning requests to an SMS simulator instead of to a source SMS or to a target SMS or to a target SMS as in claim 11.

In response, please see A and C.

Conclusion

12. The prior art made of record listed on pto-892 and not relied, if any, upon is considered pertinent to applicant's disclosure.

Contact Information

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL PHAM whose telephone number is (571)272-3924. The examiner can normally be reached on 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Cottingham can be reached on 571-272-7079. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/M. P./
Examiner, Art Unit 2167

/John R. Cottingham/
Supervisory Patent Examiner, Art Unit 2167